PORTFOLIO

MUHAMMAD RIDHO ALFARID

ridhoalfarid95@gmail.com

www.linkedin.com/in/ridhoalfa

PROFILE

About Me

Statistics Student

I am an active 7th-semester Statistics student at Universitas Islam Indonesia, committed to applying statistical knowledge and programming skills in real-world contexts. I have been actively involved in volunteer activities, student staff positions, and serving as a practicum assistant, which have helped me develop strong communication, time management, and collaboration skills. I have a keen interest in Business Intelligence, Data Science, and Machine Learning.

Education

Universitas Islam Indonesia

2022 - Present

Bachelor of Statistics

CGPA: 3.79/4.00

Relevant Coursework:

- Database
- Data Engineering
- Financial Analysis
- Business Intelligence
- Machine Learning
- Spatial Analysis

Professional Experiences

Universitas Islam Indonesia

Practicum Assistant

Mar 2024 - Aug 2025

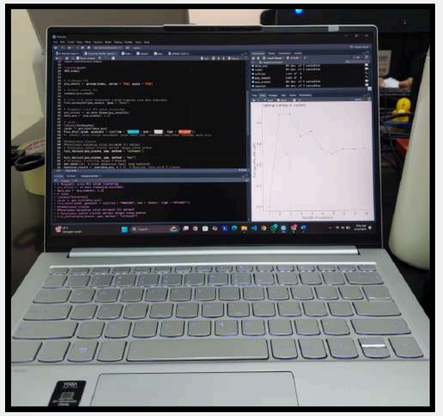
- Practicum Statistical Computing (Mar 2025 - Aug 2025)
- Practicum Programming Algorithm (Sep 2024 - Jan 2025)
- Practicum Database (Mar 2024 - Jul 2024)

Professional Experiences

BPS Kota Jakarta Timur

Statistician Intern

Jan 2025 - Feb 2025



PKM CORNER UII

Research and Administration

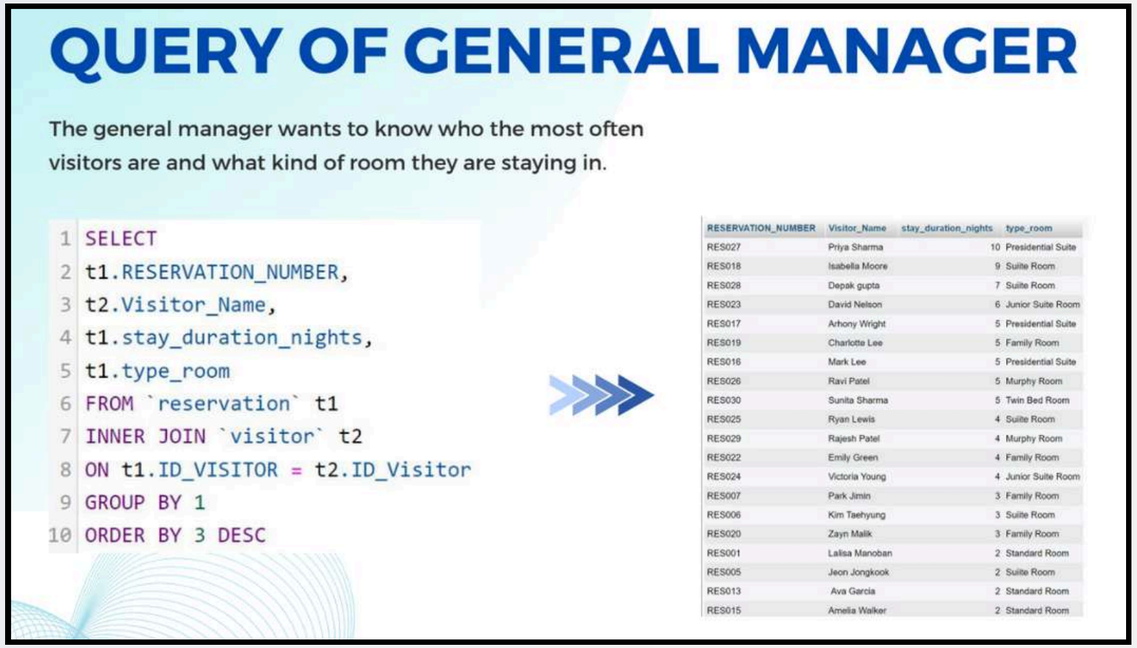
Dec 2023 - Dec 2024

Project

Harmony Heaven Hotel Database

[Link]

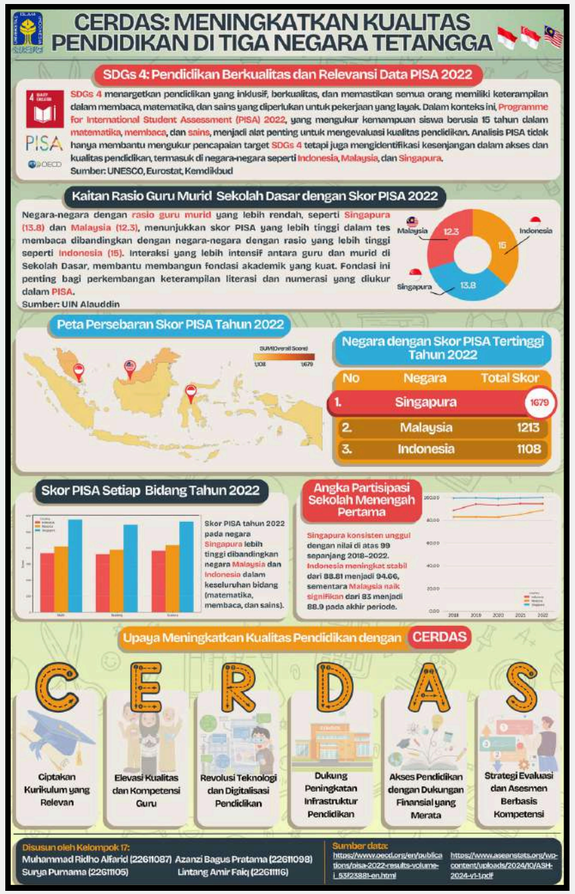
This project involved the creation of a database for Harmony Heaven Hotel, covering the process from database design to executing queries for various simulations within the company's system. The database was designed to manage data related to reservations, visitors, employees, rooms, and transactions, and it supported efficient decision-making through structured queries.



Tool: MySQL

Project

CERDAS: Meningkatkan Kualitas Pendidikan di Tiga Negara Tetangga



[Link]

This project presented an infographic that compared the educational quality of Indonesia, Malaysia, and Singapore using the 2022 PISA results as a primary benchmark. It highlighted Singapore's top ranking and examined contributing factors such as student-teacher ratios and school participation rates. Ultimately, it proposed the 'CERDAS' framework as a multi-faceted strategy to enhance Indonesia's educational standards.

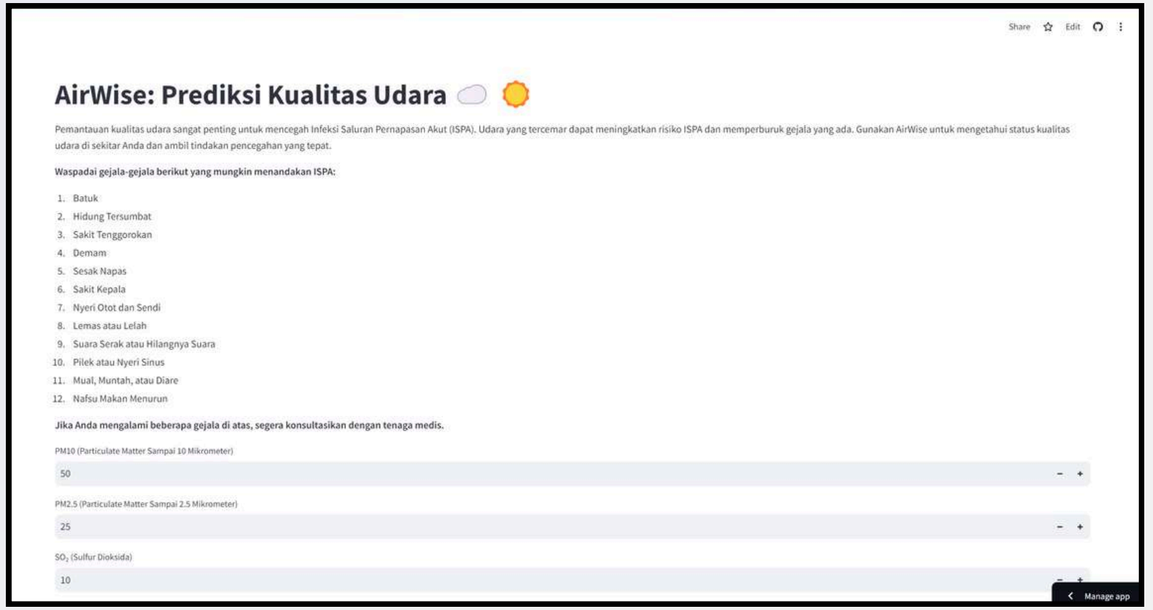
Tool: tableau

Project

AirWise: Air Quality Prediction

[Live Demo]

This project developed a website for predicting air quality, utilizing the Air Pollution Standard Index (ISPU) from DKI Jakarta (January 1, 2021 – July 31, 2024). It applied KNN and SVM algorithms, achieving accuracies of 96% and 97%, respectively. The best-performing model is deployed to help the public understand air quality and take appropriate precautions for outdoor activities.



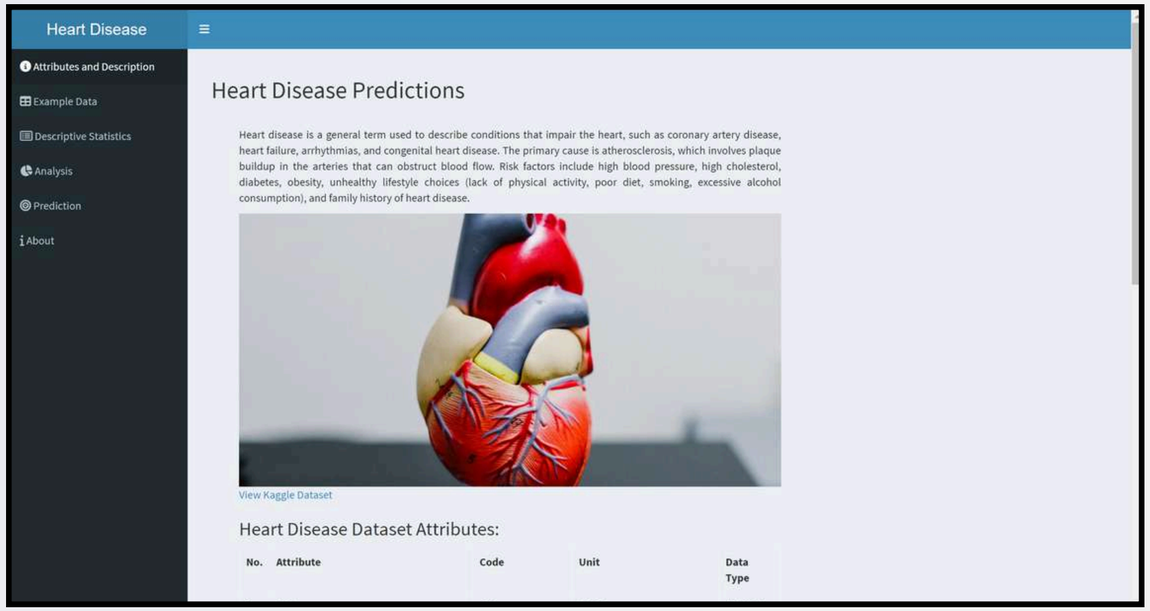
Tool:

Project

ShinyApp: Heart Disease Predictions

[Live Demo]

This project developed an interactive website using Shiny to classify heart diseases. The application utilized the Random Forest algorithm and achieved 90% accuracy. The Shiny app is designed to be user-friendly, enabling users to make predictions easily and quickly.



Tool:

Project

Pemodelan Topik Terkait Pemblokiran Rekening oleh PPATK Menggunakan BERTopic

Medium

This project analyzed public opinion on PPATK's policy of freezing dormant bank accounts using topic modeling (BERTopic) on YouTube comments. It leveraged IndoSBERT embeddings, UMAP, HDBSCAN, and KeyBERTInspired to uncover dominant themes and provide data-driven insights into public perspectives on financial regulations.

Tool:

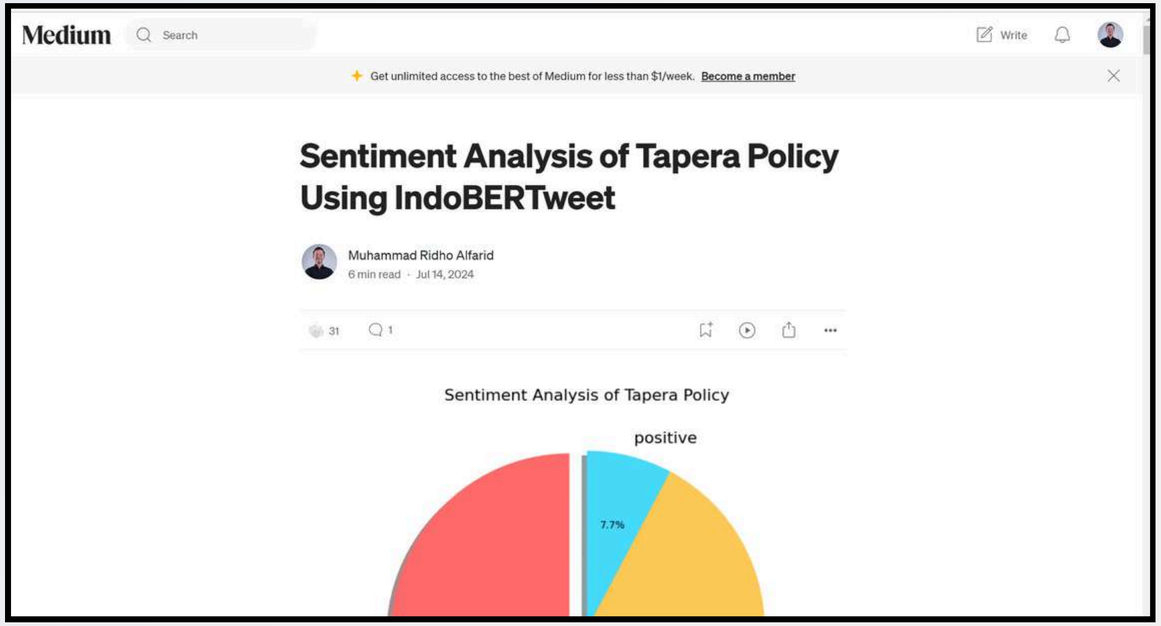
Project

Sentiment Analysis of Tapera Policy Using IndoBERTweet

[Medium](#) | [Hugging Face](#)

This project aimed to analyze public sentiment towards the Tapera policy using data from social media platform X (Twitter). It used IndoBERTweet as a pre-trained model for fine-tuning, utilizing 4,112 tweets.

Tool:



Project

Perbandingan Kinerja Artificial Neural Network dan Convolutional Neural Network dalam Klasifikasi Citra Pakaian Atas, Pakaian Bawah, dan Alas Kaki

Medium

This project identified three primary fashion categories: upper wear, lower wear, and footwear. Leveraging deep learning, it compared the performance of Artificial Neural Networks (ANN) and Convolutional Neural Networks (CNN) to improve the efficiency, accuracy, and personalization of automated apparel recognition systems.

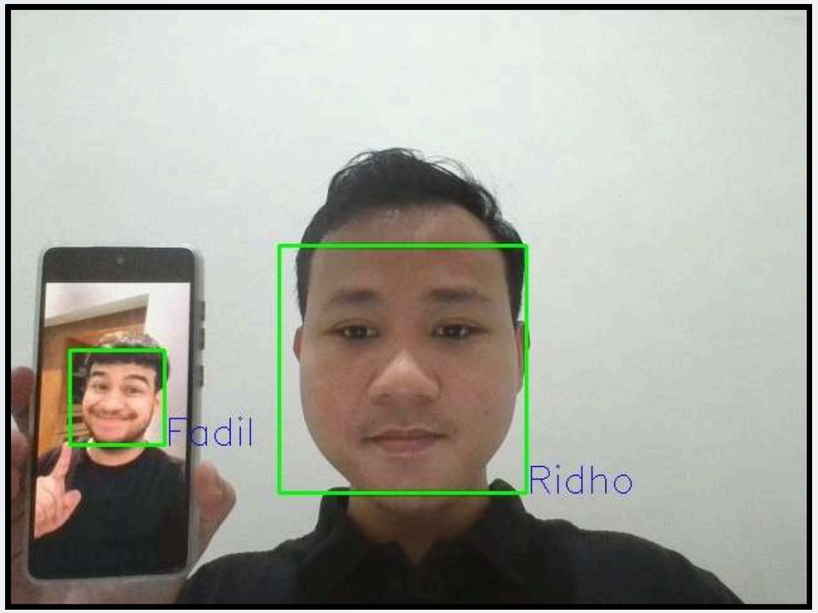
Tool:

Project

Face Recognition

GitHub

This project developed a real-time face recognition system using OpenCV to identify individuals from a live video stream. The application captured facial data to train a custom Local Binary Pattern Histogram (LBPH) model, and the system can recognize and label a person's name on screen in real time.



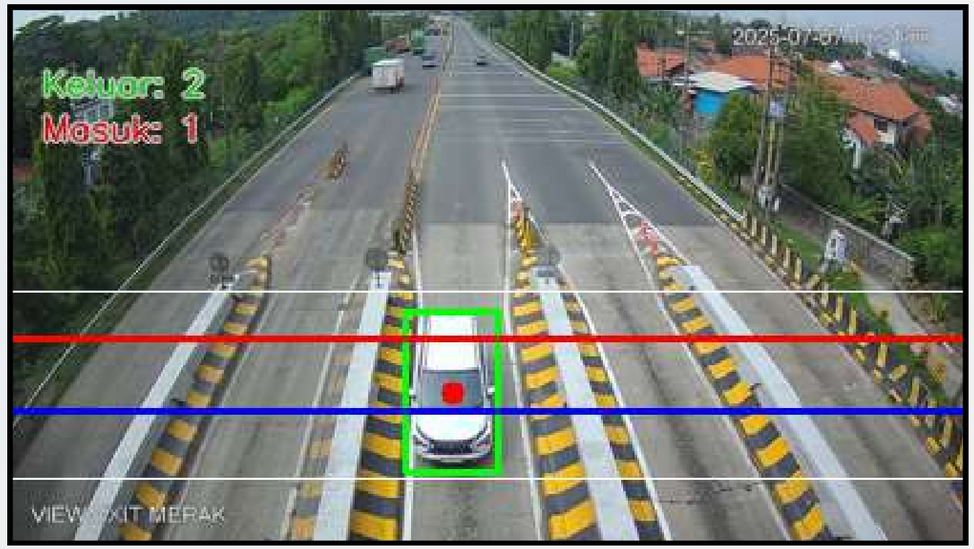
Tool:

Project

Automated Toll Gate Traffic Monitoring

GitHub

This project developed a traffic monitoring system designed to automatically detect and count vehicles using a public CCTV stream. Leveraging background subtraction and contour analysis techniques from the OpenCV library, the system identifies each moving vehicle, and the final count of vehicles entering and exiting the toll gate is displayed in real time on the video feed.



Tool:

Project

Pengelompokkan Tingkat Pengangguran Terbuka di Indonesia Menggunakan DTW-K-Medoids, DTW-Fuzzy CMeans, dan DTW-DBSCAN

Link

This project conducted a time series clustering of Indonesia's Open Unemployment Rate from 2015 to 2025 using DTW-K-Medoids, DTW-Fuzzy C-Means, and DTW-DBSCAN. The performance was evaluated through multiple clustering indices. Among the methods, DTW-Fuzzy C-Means achieved the best results. It successfully distinguished provinces with low-stable unemployment rates from those with high-fluctuating rates, offering insights for targeted employment policies.

Tool:

ESTIMASI: Journal of Statistics and Its Application
Vol. …, No…,…,…, Hal….
DOI: ….

Pengelompokkan Tingkat Pengangguran Terbuka di Indonesia Menggunakan DTW-*K-Medoids*, DTW-*Fuzzy C-Means*, dan DTW-DBSCAN

Muhammad Ridho Alfarid[1], Muhammad Dzaky Sanjaya[2], Azanzi Bagus Pratama[3], Lintang Amir Faiq[4], Surya Purnama[5], Kariyam[6*]
[123456]Program Studi Statistika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Islam Indonesia, Sleman, 55584, Indonesia
*** Corresponding author, email:** kariyam@uii.ac.id

Abstract

Open unemployment is a problem that affects the economic, social, and educational sectors. The disparity in unemployment rates across provinces reflects differences in regional characteristics that require further analysis. This study clusters the Open Unemployment Rate in Indonesia during the 2015–2025 period, structured as time series data collected twice a year. The methods used include K-Medoids, Fuzzy C-Means, and DBSCAN with Dynamic Time Warping (DTW) distance. Evaluation using the Silhouette Index, Pseudo F-Statistics, Davies-Bouldin Index, Dunn Index, and Gap Statistic shows that Fuzzy C-Means with DTW produces the most optimal clustering. The analysis resulted in two main clusters: provinces with low and stable TPT, and provinces with high and fluctuating TPT. These findings can serve as a reference for the government to evaluate the causes of high TPT in certain regions and to formulate more targeted policies based on the demographic and geographic characteristics of each province.

***Keywords**: TPT, DTW, K-Medoids, Fuzzy C-Means, DBSCAN*

Abstrak

Pengangguran terbuka merupakan permasalahan yang berdampak pada sektor ekonomi, sosial, dan pendidikan. Ketimpangan tingkat pengangguran antar provinsi mencerminkan perbedaan karakteristik wilayah yang perlu dianalisis lebih lanjut. Penelitian ini melakukan pengelompokan Tingkat Pengangguran Terbuka (TPT) di Indonesia selama periode 2015 hingga 2025, yang disusun dalam bentuk deret waktu dua kali setahun. Metode yang digunakan meliputi *K-Medoids*, *Fuzzy C-Means*, dan DBSCAN dengan jarak *Dynamic Time Warping* (DTW). Evaluasi menggunakan *Silhouette Index*, *Pseudo F-Statistics*, *Davies-Bouldin Index*, *Dunn Index*, dan *Gap Statistic* menunjukkan bahwa *Fuzzy C-Means* dengan DTW menghasilkan pengelompokan paling optimal. Hasil analisis membentuk dua klaster utama, yaitu provinsi dengan TPT rendah dan stabil serta provinsi dengan TPT tinggi dan fluktuatif. Temuan ini dapat menjadi acuan bagi pemerintah untuk mengevaluasi penyebab tingginya TPT di wilayah tertentu dan merumuskan kebijakan yang lebih tepat sasaran berdasarkan karakteristik demografis dan geografis tiap provinsi.

Kata Kunci: TPT, DTW, *K-Medoids*, *Fuzzy C-Means*, DBSCAN

Project

Perbandingan Kinerja Long Short Term Memory dan Gated Recurrent Unit dalam Prediksi Harga Saham McDonald's

Link

This project analyzed the effect of a global boycott on McDonald's stock price through time series forecasting using LSTM and GRU models. The models were trained on historical stock data from January 31, 2015 to January 31, 2025, and optimized using Optuna. The untuned LSTM model achieved the lowest error rate, highlighting its effectiveness in capturing market sentiment changes during social movements.

Tools:

PERBANDINGAN KINERJA *LONG SHORT-TERM MEMORY* DAN *GATED RECURRENT UNIT* DALAM PREDIKSI HARGA SAHAM MCDONALD'S

Muhammad Ridho Alfarid[1], Qonita Husnia Rahmah[2]
[1] Program Studi Statistika, Fakultas MIPA, Universitas Islam Indonesia
[2] Program Studi Statistika dan Sains Data, Sekolah SMI, IPB University

e-mail: 22611087@students.uii.ac.id

Abstrak
Genosida yang dilakukan oleh Israel memicu kecaman dari berbagai negara di dunia. McDonald's Corporation (McD) merupakan perusahaan yang terafiliasi dengan Israel, sehingga menjadi salah satu target boikot masyarakat global. Penelitian ini bertujuan untuk menganalisis dampak aksi boikot terhadap harga saham McD dengan membandingkan kinerja model *Gated Recurrent Unit* (GRU) dan *Long Short-Term Memory* (LSTM) yang dilakukan *hyperparameter tuning* menggunakan Optuna. Data yang digunakan berupa harga penutupan harian saham McD selama periode 31 Januari 2015 hingga 31 Januari 2025 yang diperoleh dari www.finance.yahoo.com. Hasil penelitian menunjukkan bahwa model LSTM tanpa *hyperparameter tuning* memberikan performa paling optimal, dengan nilai *Mean Absolute Percentage Error* (MAPE) sebesar 1,79% pada data latih dan 1,47% pada data uji. Model ini mampu mengidentifikasi perubahan pola harga saham McD sebelum dan sesudah aksi boikot serta terbukti efektif dalam meramalkan pergerakan harga saham di tengah isu sosial global.
Kata Kunci: LSTM; GRU; Saham; Boikot; Optuna

Abstract
The genocide committed by Israel has sparked condemnation from various countries around the world. McDonald's Corporation (McD), being affiliated with Israel, has become one of the targets of the global boycott movement. This study aims to analyze the impact of the boycott on McD's stock price by comparing the performance of Gated Recurrent Unit (GRU) and Long Short-Term Memory (LSTM) optimized through hyperparameter tuning using Optuna. The data used consists of McD's daily closing stock prices from January 31, 2015, to January 31, 2025, obtained from www.finance.yahoo.com. The results show that the LSTM model without hyperparameter tuning performed the best, achieving a Mean Absolute Percentage Error (MAPE) of 1.79% on the training data and 1.47% on the test data. This model successfully identified changes in McD stock price patterns before and after the boycott and proved effective in forecasting stock price movements amid global social issues.
***Keywords**: LSTM; GRU; Stock; Boycott; Optuna*

Other Projects

Medium

@ridhoalfarid95

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ridhoalfarid

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Organization

Google Developer Group on Campus UII

Academic Staff
Nov 2024 - Present

Volunteer

Enthusiastic Competition 2023

Equipment Staff
Jul 2023 - Jan 2024

Masa Ta'aruf 2023

Expert Equipment Staff
Jul 2023 - Sep 2023

I-Birthy 2022

Public Relations and Transportation Staff
Oct 2022 - Dec 2022

Certificate

Certificate Intermediate Data Science

Issued by Digital Talent Scholarship

Certificate International Specialist in Data Visualization

Issued by PASAS INSTITUTE

Certificate Belajar Machine Learning untuk Pemula

Issued by Dicoding Indonesia

Certificate Belajar Analisis Data dengan Python

Issued by Dicoding Indonesia

Certificate

Ceritificate Memulai Pemrograman dengan Python

Issued by Dicoding Indonesia

Certificate Pelatihan Basis Data

Issued by Laboratorium terpadu Informatika UII

Certificate Belajar Dasar Structured Query Language (SQL)

Issued by Dicoding Indonesia

Certificate R Fundamental for Data Science

Issued by DQLAB

Skills

Tools

- R
- Python
- SQL
- SPSS
- MINITAB
- Tableau
- Microsoft Office
- Power BI
- Looker Studio
- QGIS

Technical Skills

- Data Analysis
- Data Science
- Data Visualization
- Machine Learning
- Deep Learning
- NLP

Soft Skills

- Leadership
- Teamwork
- Communication
- Problem Solving
- Time Management
- Critical Thinking

Languages

- Indonesia (Native)
- English (Intermediate)

Thank You

Contact Me

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Email : ridhoalfarid95@gmail.com

LinkedIn : Muhammad Ridho Alfarid